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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/073,596	05/06/1998	RALPH M. STEINMAN	20164000US5	9977

7590 02/03/2004

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EXAMINER

EWOLDT, GERALD R

ART UNIT	PAPER NUMBER
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1644

DATE MAILED: 02/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Applicant(s)

09/073,596

Applicant(s)

STEINMAN ET AL.

Examiner

G. R. Ewoldt, Ph.D.

Art Unit

1644

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 82,84-96 and 98-120 is/are pending in the application.
- 4a) Of the above claim(s) 82,85-88,90,93,96,98,100 and 102 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 84,89,91,92,94,95,99,101 and 103-120 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's amendment and remarks filed 10/30/03 have been entered.
2. Claims 84, 89, 91-92, 94-95, 99, 101, and 103-120 are being acted upon.
3. The amendment and response, filed 10/30/03, is acknowledged. In view of Applicant's amendments and response, the previous rejection under the second paragraph of 35 U.S.C. 112, and the rejection of Claims 99 and 116 under the first paragraph of 35 U.S.C. 112 (new matter), have been withdrawn.
4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. Claims 89, 91-92, 94-95, 99, 101, and 103-120 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Inaba et al. (1990, IDS, of record) in view of Aldovini et al. (1991, of record), for the reasons of record as set forth in the actions mailed 7/02/02 and 2/14/03.

Applicant's arguments, filed 10/30/03, have been fully considered but they are not persuasive. Applicant argues that the amending of independent Claims 101 and 120 to now recite a population of "enriched and expanded" antigen-activated DCs separates the cells of the instant claims from the cells of the prior art. Applicant further argues that the process of Inaba et al. teaches away from the process of the instant claims.

As set forth in the previous rejection, regarding product-by-process claims, MPEP 2113 states:

"[E]ven though product-by-process claims are limited by and

defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985), and

"The Patent Office bears a lesser burden of proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983).

It remains the Examiner's position that the product of the instant claims is the product of the prior art, regardless of process. Note, Applicant has not attempted to show any difference between the product of the instant claims and the product of the prior art, indeed, Applicant has not traversed nor even commented on this basis for the rejection. Accordingly, the rejection is proper and has been maintained.

Note that the contradictions between the method of the instant claims and the method of the prior art are addressed in section 11, below.

6. Claim 84 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Inaba et al. (1990, IDS, of record) in view of Aldovini et al. (1991, of record), as applied to claims 89, 91-92, 94-95, 97, 99, 101, and 103 above, and in further view of Caux et al. (1990, IDS, of record) as evidenced by Romani et al. (1994, IDS, of record); for the reasons of record as set forth in the actions mailed 7/02/02 and 2/14/03.

Applicant's arguments, filed 10/30/03, have been fully considered but they are not persuasive. Applicant argues that as the Inaba et al. reference is deficient, the rejection is improper because the Caux et al. does not solve the deficiency. See the Examiner's response in section 5, above.

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claim 109 stands rejected under 35 U.S.C. § 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed, for the reasons of record as set forth in the action mailed 2/14/03. This is a new matter rejection.

The specification and the claims as originally filed do not provide support for the invention as now claimed, specifically, the recitation in Claim 109 of, "wherein the cell aggregates are subcultured about one to five times."

Applicant indicates that support for the amended claim can be found in original Claim 28 and at pages 29-30 of the specification. A review of Claim 28 shows that the claim fails to recite the word "about" and the cite at pages 29-30 discloses only the subculture of nonadherent cells (not cell aggregates) "about one to five times".

9. The following are new grounds of rejection.

10. Claims 84, 89, 91-92, 94-95, 99, 101, and 103-120 are rejected under 35 U.S.C. § 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed. This is a new matter rejection.

The specification and the claims as originally filed do not provide support for the invention as now claimed, specifically, the recitation in Claim 109 of, "A composition comprising an enriched and expanded population of antigen-activated dendritic cells" in Claims 101 and 120 is not supported by the claims or specification as filed.

A review of the specification shows that it supports only an enriched and expanded population of dendritic cell precursors, not an enriched and expanded population of antigen-activated dendritic cells.

11. Claims 84, 89, 91-92, 94-95, 99, 101, and 103-120 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification disclosure is insufficient to enable one skilled in the art to practice the invention as claimed without an undue amount of experimentation. Undue experimentation must be considered in light of factors including: the breadth of the claims, the nature of the invention, the state of the prior art, the level of one of ordinary skill in the art, the level of predictability of the art, the amount of direction provided by the inventor, the existence of working examples, and the quantity of experimentation needed to make or use the invention.

In an attempt to separate the cells of the instant claims from the cells of the prior art, Applicant has amended the process of the instant claims to require that said process begin with an enriched and expanded population of proliferating dendritic cell precursors. Applicant has further argued (in the remarks of 10/30/03) that said population comprises cultured DC precursors and excludes fresh DC precursors. The prior art however, teaches that only fresh DC precursors can be pulsed with antigen, i.e., cultured DC precursors are incapable of processing and presenting antigen. See for example, Inventor Inaba's and Inventor Steinman's own work:

"Recent studies in mouse spleen and epidermal suspensions reveal that foreign proteins are captured only for a short time in the life history of a dendritic cell... Capture of several proteins... proceeds efficiently shortly after the dendritic cells are isolated from spleen and epidermis. After a day in culture, however, the dendritic cells cannot be pulsed with a native protein antigen." (Inaba et al., 1990).

It appears then that the Inventors themselves teach that the process of the instant claims cannot function as claimed. Accordingly, the method of the claim must be considered highly unpredictable. Given said unpredictability, the method of the instant claim must be considered to require undue experimentation.

*In re Wands*, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988) indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute. Thus, in view of the quantity of experimentation necessary, in particular, the prior teaching of the Inventors that the claimed process cannot function, it would take undue trials and errors to practice the claimed invention.

12. Claims 84, 89, 91-92, 94-95, 99, 101, and 103-120 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Under *Vas-Cath, Inc. v. Mahurkar*, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991), to satisfy the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and that the invention, in that context, is whatever is now claimed.

There is insufficient written description to show that Applicant was in possession of "a modified antigen", as recited in Claim 101, or the "antigen modification" of Claim 120. The specification fails to disclose any examples of said "modified" antigens. Given the lack of said disclosure, and the essentially unlimited number of antigens that might be encompassed by the claims, one of skill in the art must conclude that the specification fails to disclose an adequate written description of the claimed genus. See *Eli Lilly*, 119 F.3d 1559, 43 USPQ2d 1398.

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 84, 89, 91-92, 94-95, 99, 101, and 103-120 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 45 and 46 of copending Application No. 10/287,813. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass antigen-activated dendritic cells.


This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

15. No claim is allowed.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Gerald Ewoldt whose telephone number is (571) 272-0843. The examiner can normally be reached Monday through Thursday from 7:30 am to 5:30 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (703) 308-3973.

**Please Note:** inquiries of a general nature or relating to the status of this application should not be directed to the Examiner but rather should be directed to the Technology Center 1600 Customer Service Center at (703) 308-0198.

G.R. Ewoldt, Ph.D.  
Primary Examiner  
Technology Center 1600

  
1/26/03  
**G.R. EWOLDT, PH.D.**  
**PRIMARY EXAMINER**